abcam

ab220818

Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR17350
Purification technique	Affinity purification Protein A
Concentration	1.057 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human, Rat
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information Keratin, type I cytoskeletal 14

Function	The nonhelical tail domain is involved in promoting KRT5-KRT14 filaments to self-organize into large bundles and enhances the mechanical properties involved in resilience of keratin intermediate filaments in vitro.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab220818 is the carrier-free version of ab181595.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes,

oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Cytokeratin 14 also known as CK14 keratin 14 or KRT14 is a type I keratin protein with a molecular mass of approximately 50 kDa. It forms intermediate filaments in epithelial cells primarily in the basal layer of stratified epithelium and is part of the cytoskeleton. Cytokeratin 14 expression appears in tissues such as the epidermis tongue and esophagus where it contributes to the structural integrity and mechanical stability of cells. Laboratories often utilize antibodies like anti-K14 and labels such as Alexa Fluor 555 or Alexa Fluor 647 to identify cytokeratin 14 in research settings.
Biological function summary	This protein significantly contributes to the maintenance and regeneration of epithelial tissues by forming a network of filaments with keratin 5. KRT14 pairs with keratin 5 to create a keratin intermediate filament complex which plays a structural role in the resilience and elasticity of epithelial tissues. This partnership is essential for the assembly of the cytoskeleton and supports the protective barrier function of the skin and related tissues.
Pathways	Cytokeratin 14 engages in pivotal cellular processes like keratinization and wound healing. The protein is actively involved in signal transduction pathways such as the epithelial cell differentiation pathway. Within these pathways KRT14 collaborates with KRT5 and other structural proteins to regulate cell proliferation and differentiation reflecting its importance in skin health and function.
Associated diseases and disorders	Cytokeratin 14 associates with specific genetic conditions including epidermolysis bullosa simplex (EBS) and squamous cell carcinoma (SCC). In EBS mutations in the KRT14 gene lead to skin fragility. In SCC altered expression of KRT14 and related proteins such as keratin 5 can influence tumor progression and invasion. These associations highlight the critical role of KRT14 in both normal and pathological epithelial function.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

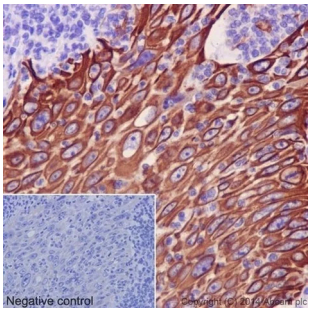
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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9 product images



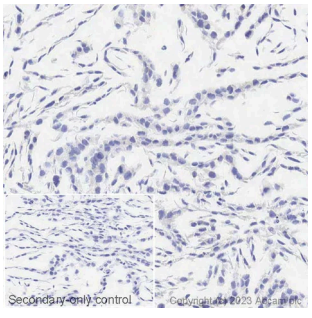
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded Human squamous cell carcinoma of cervix tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Squamous carcinoma cells show strong staining. Counter stained with Hematoxylin.
Negative control: PBS instead of primary antibody, secondary antibody is prediluted HRP Polymer for Rabbit/Mouse IgG.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

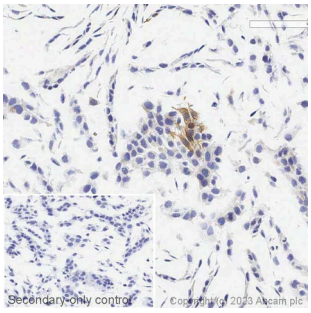


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Negative control image: IHC image of Cytokeratin 14 staining in a section of formalin-fixed paraffin-embedded A431 KO cell pellet block performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab181595, 0.01ug/ml, for 15 mins at room temperature and detected using an HRP conjugated

Lab

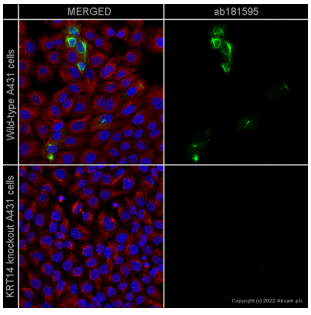
compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).



Lab

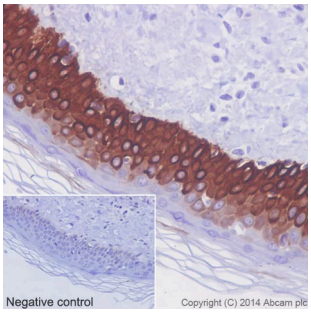
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

IHC image of Cytokeratin 14 staining in a section of formalin-fixed paraffin-embedded A431 WT cell pellet block performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab181595, 0.01ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).



Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

This data was developed using the same antibody clone in a different buffer formulation (ab181595). ab181595 staining Cytokeratin 14 in wild-type A431 cells (top panel) and KRT14 knockout A431 cells (bottom panel). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab181595 at 0.2µg/ml concentration and ab7291 (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (ab150120) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI. Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).



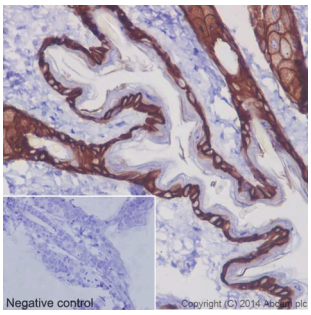
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded Human skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counter stained with Hematoxylin.
Negative control: PBS instead of primary antibody, secondary antibody is prediluted HRP Polymer for Rabbit/Mouse IgG.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



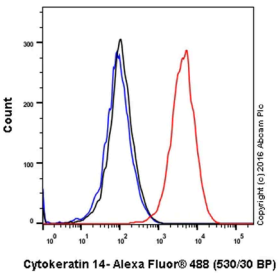
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded Mouse skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counter stained with Hematoxylin.
Negative control: PBS instead of primary antibody, secondary antibody is prediluted HRP Polymer for Rabbit/Mouse IgG.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).

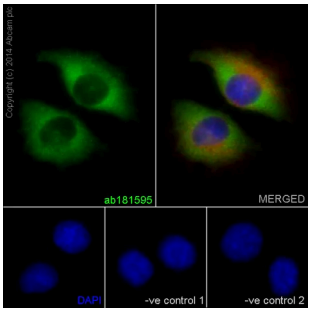
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 14 antibody

Intracellular Flow Cytometry analysis of PC-12 (rat adrenal gland pheochromocytoma) cells labeling Cytokeratin 14 with purified ab181595 at 1/190 dilution (10ug/mL) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) was used as the unlabeled control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).

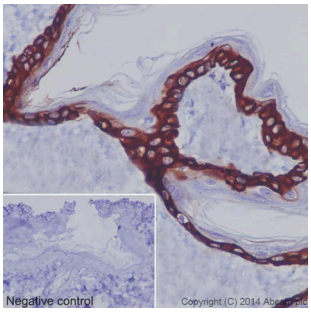


Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytokeratin 14 antibody

Immunofluorescent analysis of 4% paraformaldehyde fixed, 0.1% Triton X-100 permeabilized PC-12 (Rat adrenal gland pheochromocytoma cells) labeling Cytokeratin 14 with ab181595 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Cytoplasm staining on PC-12 cell line is observed. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls:-

-ve control 1: ab181595 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - BSA and Azide free (ab220818)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded Rat skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counter stained with Hematoxylin.
Negative control: PBS instead of primary antibody, secondary antibody is prediluted HRP Polymer for Rabbit/Mouse IgG.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181595).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.